

D U

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
11 October 2001 (11.10.2001)

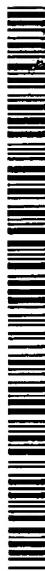
PCT

(10) International Publication Number  
**WO 01/75683 A2**

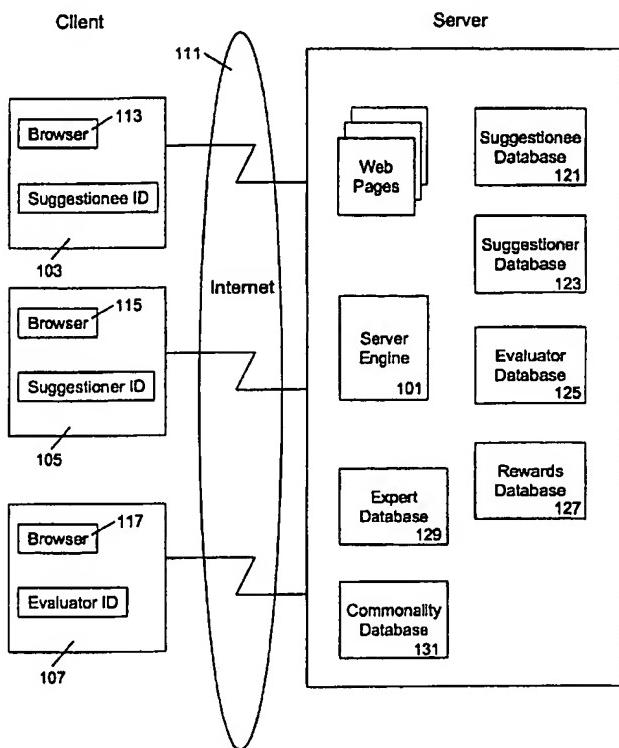
- (51) International Patent Classification<sup>7</sup>: **G06F 17/30**
- (21) International Application Number: PCT/US01/09835
- (22) International Filing Date: 28 March 2001 (28.03.2001)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
60/194,029 3 April 2000 (03.04.2000) US  
09/664,070 18 September 2000 (18.09.2000) US
- (63) Related by continuation (CON) or continuation-in-part (CIP) to earlier application:  
US 60/194,029 (CIP)  
Filed on 3 April 2000 (03.04.2000)
- (71) Applicant (*for all designated States except US*): SUG-GESTIONATOR.COM, INC. [US/US]; 6001 Broken Sound Parkway, Suite 510, Boca Raton, FL 33487 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): COES, Rufus, Putnam, III [US/US]; 7600 Pine Road, Wyndmoor, PA 19038 (US). GONZALEZ-HERES, Jose, F [US/US]; 3009 N.W. 26th Avenue, Boca Raton, FL 33434 (US).
- (74) Agent: MAEBIUS, Stephen, B.; Foley & Lardner, 3000 K. Street, N.W., Suite 500, Washington, DC 20007-5109 (US).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European

*[Continued on next page]*

(54) Title: COMPUTERIZED SYSTEM AND METHOD FOR SOLICITING, COLLECTING AND EVALUATING SUGGESTIONS FROM STRUCTURED AND UNSTRUCTURED STIMULI VIA A COMPUTER NETWORK



**WO 01/75683 A2**



(57) Abstract: A method and apparatus for suggestion solicitation, collection, and evaluation. The method and apparatus enables individuals and organizations to obtain and provide real-time, anonymous, and subject-specific feedback via a computer network, such as the Internet, to improve their decision-making capabilities. Bi-directional anonymous communication is established to allow for clarification on prior suggestion submissions and better targeted future submission. Indirect feedback is gathered among consenting users sharing anonymous responses to similar suggestion-solicitation stimuli. An anonymous incentive-awarding mechanism is provided to enhance the efficiency of the information flow. The method and apparatus further provides an intermediate processing layer between the suggestion or information sought and the suggestion or information delivered; such intermediate processing includes systematic evaluation, filtering, and knowledge extraction steps.



patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**Published:**

- *without international search report and to be republished upon receipt of that report*

**COMPUTERIZED SYSTEM AND METHOD FOR SOLICITING,  
COLLECTING AND EVALUATING SUGGESTIONS FROM STRUCTURED AND  
UNSTRUCTURED STIMULI VIA A COMPUTER NETWORK**

**FIELD OF THE INVENTION**

5       The present invention relates in general to methods of acquiring useful information via a computer network, such as the Internet. More specifically, the present invention relates to a method and apparatus enabling individuals or institutional entities to obtain and provide real-time, anonymous, and subject-specific feedback to improve their information gathering, information

10      providing, and decision-making capabilities. In particular, the present invention relates to a method and apparatus for soliciting and organizing suggestions (or feedback) in electronic format via a computer network, such as the Internet, using electronic suggestion boxes; and processing such feedback information by evaluation, filter, and knowledge extraction mechanisms

15      before delivering to the entities that seek the feedback. The present invention further relates to an assembly of individual suggestion boxes, interconnected on the World Wide Web, and thus allows sharing of anonymous feedback information among consenting users.

## BACKGROUND OF THE INVENTION

Suggestion boxes have been used by "organizations" (i.e., business, government and non-profits) to solicit suggestions and feedback from their members and constituents. Perhaps the most common type of conventional suggestion collection system is the one associated with the purchase of goods or services. A consumer can usually provide feedback to a merchant by filling out a questionnaire and dropping it off in a physical suggestion box at the store, or by sending a letter or completed questionnaire to the company via the postal service, or electronically, by clicking on a "suggestion" or "feedback" icon/link on the company's Web site.

It is noteworthy that the use of suggestion boxes associated with "private individuals" (e.g., consumers, employees, members of organizations) is rare, if at all present, in existing suggestion collection schemes. For example, it is difficult for a given individual to gather feedback, in an anonymous fashion, from other individual(s) with whom he or she may be interacting with for business or other purposes, and whose opinion may be of interest or importance to him or her in specific areas. In addition, conventional suggestion collection systems are also limited with respect to their accessibility, anonymity, privacy, and evaluation.

Great accessibility is desirable because it will increase the volume of the data collected, as well as enhance the diversity, thus increase the representativeness of the data. To receive a large and diverse quantity of

data, physical suggestion boxes need to be situated in as many locations as possible. In the example of individuals, this task is complex and burdensome because one may need to interact with a myriad of people in a myriad of places. Also, it may be impracticable for an individual to place physical  
5 suggestion boxes over a large geographic area, due to various constraints (costly to rent private property for such placement). The problem of accessibility is less pronounced for organizations, since they generally occupy the real property where they transact with customers or where employees congregate to work, and the customers and employees are the  
10 constituents they care to receive suggestions from. However, the lack of flexibility in physical suggestion boxes remains a significant obstacle for their accessibility.

Electronic implementations of suggestion boxes allow an individual or institutional entity to use a designated site on the Web to gather suggestions  
15 from a potentially large and diversified group of contributors. Typically, web sites collect suggestions or feedback information electronically via dedicated e-mail addresses (e.g., suggestions@xyzcorp.com) or html forms accessible directly on the web site. Additionally, electronic forums (e.g., bulletin boards and chat rooms) on the recipient's or a third-party's web site may be used  
20 for the same purpose, where suggestions and feedback are submitted and viewed by the general public. The seemingly improved accessibility, however, provides little benefit to individual private users because most of

them do not have the facility to create and maintain their own web site, and to receive significant number of hits required to gain meaningful pools of suggestions. Meanwhile, the available web-based suggestion-collection systems do not offer mechanisms for organizing, evaluating, and filtering 5 information gathered. Therefore, a new paradigm of collecting and managing suggestion information with consistent high accessibility is needed.

Anonymity is an important factor for any system that is designed to effectively deal with information related to people. The e-mail or bulletin board-based suggestion collection systems discussed above, for example, do 10 not afford desired anonymity, because a contributor's identity is easily discoverable through various tracking techniques over the Internet, such as using cookies. Current e-mail-based suggestion boxes also inevitably require a return e-mail address, which tend to discourage contributors from submitting suggestions in some situations when they are concerned about 15 revealing their identity. The lack of anonymity in these existing suggestion collection systems also impairs the web site owners' ability to fashion incentives and monetary rewards to effectively encourage suggestion submission, since contributors may be reluctant to disclose who they are in order to receive the reward. Therefore, better resolutions for the anonymity 20 issue are desired to liberate potential contributors, hence to secure a stable volume and diversified resources for suggestion or information of interest.

Inseparable from the anonymity issues are the concern of privacy. For example, an electronic forum, one form of the current suggestion system, may discourage potential suggestion recipients from seeking certain feedback, because the posted data is of a public nature. This leads to

5      compromised volume and completeness of the collectable information. The seeker of a suggestion is more likely to reveal important issues, often sensitive and private, in constructing stimuli to obtain feedback, if he or she is ensured that the information gathered can only be viewed by him or her self in a secure and private manner. Similarly, in certain situations, a

10     provider of a suggestion is more likely to submit a suggestion on sensitive issues when such submission can be carried out in a private manner.

Evaluation is helpful for a suggestion collection and managing system. As data may grow exponentially through efficient stimuli and incentive-induced collecting, the task of procedurally and intellectually evaluating and

15     processing the data becomes increasingly important. The traditional and limited evaluation by the data-recipients themselves often results in biased conclusions due to their preexisting dispositions.

The issue of evaluation also implicates the failure of current suggestion collection systems to learn from common themes that transcend

20     various unaffiliated suggestion boxes, since these systems operate independently of each other (e.g., through their respective and distinct web sites). It is impossible for the existing systems to provide indirect feedback

on a topic of broadly-shared interest, for example, to an organization or individual, when no direct feedback to this organization or individual has been received. The utility of such systems is therefore drastically limited.

It is clear that aforementioned drawbacks related to accessibility, 5 anonymity, privacy, and evaluation render the currently available suggestion collection and managing systems less than desirable for the effective acquiring and using of feedback information in the new Information Age. An improved system with higher accessibility, better anonymity and privacy, and more sophisticated evaluation mechanisms is needed by both institutional 10 and individual entities in their pursuance of useful feedback information.

## SUMMARY OF THE INVENTION

To resolve the above problems, the present invention is directed to a computerized suggestion solicitation, collection and evaluation system and 15 method, which uses a computer network, such as the Internet, to provide real-time, anonymous feedback to individuals and organizations improve their information gathering, information providing, and decision-making capabilities. A "suggestion" is defined to be any commentary, opinion, idea, factual statement, and the like, in various formats such as text, graphical, audio, 20 video, and the like. Suggestions may be obtained in response to a stimulus, i.e., a questionnaire, a graphic or video image, an audio recording, and a physical encounter. The recipient of a suggestion is referred to as a

"suggestioneer." The provider of a suggestion is referred to as a "suggestioneer."

In accordance with one aspect of the invention, a system and method are provided for collecting one or more suggestions from a first entity (a 5 suggestioneer) and providing collected suggestions to a second entity (a suggestioneer) comprising a memory for storing one or more suggestions submitted by the first entity in response to a stimulus selected by the second entity and an interface permitting the second entity to access the stored suggestions. The suggestions may be released in unedited ("raw") form to 10 the suggestioneer, or they may be formatted and transformed to evaluated feedback before being delivered to the suggestioneer.

It is an object of the invention to provide a computerized system that displays, controls and facilitates the submission and evaluation of anonymous suggestions from a large universe of participants that are inter- 15 connected via a computer network, such as the Internet. It is a further object to provide an integrated information collecting and processing system that provides a middle layer between the information provider and the information receiver. Passing the suggestions through a middle layer makes it possible to optionally provide anonymity to the suggestioneer and to 20 optionally analyze or format the suggestions before they are accessed by the suggestioneer.

In accordance with another aspect of the invention, the system achieves high level of accessibility by allowing both institutional and private users to license the use of the system for their particularized needs. As licensed users or subscribers, people can easily seek, obtain, or submit  
5 suggestions through the system.

In accordance with yet another aspect of the invention, the anonymity of the persons or organizations seeking or submitting suggestions is ensured, because the system operates as a third-party trustee of their identity information (e.g., name, e-mail address, Uniform Resource Locator,  
10 Internet Protocol address, etc.). Similarly, the participants may be guaranteed privacy whether they submit suggestions or seek feedback information in any particular area, since the present system affords them an insulated or personalized scope. The suggestioners and suggestees can also disclose their identity at their own discretion thereby making the system  
15 anonymous in both directions or one direction based on the users' decision.

In accordance with another aspect of the invention, the present system provides an "evaluator," for evaluating collected information and organizing it into meaningful suggestions to be delivered to the suggestee. An evaluator can be an automated process or agent  
20 preconfigured in the system, or an individual or institutional entity registered to participate as an evaluator, rather than a suggestioner or suggestee.

In accordance with another aspect of the invention, the basic building block of the present system is a "suggestion box," which is implemented in the form of a set of computer programs and related databases. A suggestion box is assigned to a specific suggestee; it is used to gather and process 5 suggestions he or she desires. A suggestion box comprises five major sub-components: 1) a "Suggestion Stimuli Input Tray"; 2) a "Raw Suggestion Output Tray"; 3) an "Evaluated Suggestion Output Tray"; 4) a "Create Suggestion-Stimuli Process"; and 5) a "Suggestion Evaluation Process". The Suggestion Stimuli Input Tray is openly accessible to the public or a defined 10 group of participants according to the suggestee. The other four sub-components are private to the suggestee; a unique and secure computer identification and password scheme is used.

In accordance with another aspect of the invention, a Network Commonality Determination Process identifies the common themes among 15 suggestion-box stimuli and responses, and establish sharable suggestions to participants having similar interests. Indirect feedback information can therefore be provided among consenting participants, which is particularly useful when stimuli-induced direct suggestions are lacking.

In accordance with the another aspect of the invention, a Redeem 20 Awards process allows the system to use incentives, such as monetary awards, to encourage participation, maintain a steady information flow, hence effectively generate and deliver useful suggestions.

The present invention, therefore, brings significant improvements to existing methods and facilities for obtaining meaningful feedback information in a business setting, academic world, or private persons' everyday life.

5

#### BRIEF DESCRIPTION OF THE DRAWINGS

These and other features will now be described with reference to the drawings summarized below. These drawings and the associated descriptions are provided to illustrate preferred embodiments of the invention, and not to limit the scope of the invention. Throughout the 10 drawings, reference numbers are reused to indicate correspondence between referenced elements. In addition, the first digit of each reference number indicates the figure in which the element first appears.

FIG. 1 is a diagrammatic illustration of a computerized system for suggestion solicitation, collection, and evaluation, according to an 15 embodiment of the present invention;

FIG. 2 is a diagram illustrating a layered architecture of the computerized system according to the present invention;

FIG. 3 is a diagram illustrating a set of processes or modules in the computerized system according to the present invention;

20 FIG. 4 is a flowchart illustrating an example of a sequence of steps of the Open Account 301 shown in FIG. 3;

FIG. 5 is a flowchart illustrating an example of a sequence of steps of the Create Suggestion-Stimuli Process 303 shown in FIG. 3;

FIG. 6 is a flowchart illustrating an example of a sequence of steps of the Suggestion-Stimuli Input Tray 305 shown in FIG. 3;

5 FIG. 7 is a flowchart illustrating an example of a sequence of steps of the Suggestion Evaluation Process 307 shown in FIG. 3;

FIG. 8 is a flowchart illustrating an example of a sequence of steps of the Raw Suggestion Output Tray 309 shown in FIG. 3;

10 FIG. 9 is a flowchart illustrating an example of a sequence of steps of the Network Commonality Determination Process 311 shown in FIG. 3;

FIG. 10 is a flowchart illustrating an example of a sequence of steps of the Evaluated Suggestion Output Tray 313 shown in FIG. 3;

FIG. 11 is a flowchart illustrating an example of a sequence of steps of the Redeem Awards 315 shown in FIG. 3.

15

#### **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS**

Referring to Fig. 1, the computerized suggestion system in a preferred embodiment of the invention operates in a client-server environment, where users communicate via the Internet 111. Users may be a plurality of persons or organizations that either solicit suggestions (suggestionee 103), submit suggestions (suggestioner 105), or evaluate suggestions (evaluator 107).  
20 Each user is a client when he or she connects to the system via a web

browser interface (113 for suggestees, 115 for suggestioners, and 117 for evaluators, respectively).

The sever engine 101 manages all processes in the computerized suggestion system, including producing and dispatching stimuli, gathering 5 and evaluating suggestions, and targeted suggestion delivering. Various types of information processed by the system are stored in a suitable database in one embodiment of the invention, or a set of interconnected databases in another embodiment of the invention. For example, dedicated suggestee database 121, suggestioner database 123, and evaluator 10 database 125 may be established. Particularly relevant in technical applications of the present system, a separate database registering expert evaluators for certain knowledge domains (expert database 129) is included. A database maintaining rewards information (rewards database 127) and another database for compiling sharable suggestion information 15 (commonality database 131) may also optionally be implemented in this embodiment of the invention.

Referring to Fig. 2, the computerized suggestion system according to the present invention contains an intermediate processing layer 205 between the information receiver/suggestee layer 201 and the information 20 provider/suggestioner layer 203. Suggestee produces stimuli for potential suggestions, which was integrated in the middle processing layer 205 and was dispatched to the suggestioner layer 203. Induced by such stimuli,

suggestioners submit suggestions to the system, which are sent to the middle processing layer 205 to go through the evaluation process.

Evaluation strategies correspond to the type of stimuli used, and hence ensure that the meaningful and desired suggestions, or advice and ideas, can

- 5 be extracted for delivering to the suggestioneer. Multiple suggestioners may submit various suggestions to a suggestioneer via one or multiple suggestion boxes. One suggestioneer may host multiple suggestion boxes receiving suggestions from a plurality of suggestionees. Between a specific suggestioneer and a specific suggestioneer, multiple suggestion boxes
- 10 configured with different purposes and functions may be used for information exchange.

The mid processing layer 205 may be configured to perform a plurality of evaluation steps according to the present invention. An individual or business entity registered with the system as an evaluator can manually

- 15 review, categorize, and summarize the submitted suggestion to produce deliverable suggestion "knowledge." An expert evaluator, in addition, focuses on evaluating the soundness of a suggestion based on a specific technical or business area, and synthesizing from the raw suggestion submissions the high-level "knowledge" or "theme," in response to the
- 20 suggestioneer's stimuli. Thus, a suggestioneer is provided with a spectrum of suggestion products by the computerized suggestion system, ranging from raw suggestion submissions to processed and integrated suggestion

knowledge, according to the particular needs of the suggestionee. In other embodiments of the present invention, automated evaluation steps are used to perform statistical analysis, text parsing for words of interest, for example. Sophisticated knowledge mining techniques such as machine learning are used for analyzing complex data submissions. These processes and steps are implemented in the form of computer programs, and operate under the synchronized control of the present system.

Fig. 3 illustrates the processes and modules in the computerized suggestion system according to the present invention. First, a user opens an account with the system and enters the demographic information (301). A suggestionee that seeks suggestions then creates customized stimuli (303) to induce suggestions and feedback from potential suggestioners, who will subsequently be presented with the customized stimuli (305). Suggestions gathered by the system are delivered to the suggestionee in a raw form (309) or evaluated form (313). Suggestion evaluation is managed by the system (307), as discussed above. In addition, the system also allows the suggestionee to evaluate raw submissions him or herself using the evaluation tools provided in the system; or to specifically designate a group of evaluators. Network Commonality Determination Process 311 identifies potential common themes, i.e., similarity and correlation between various stimuli and corresponding responses. This allows a suggestionee to access indirect yet relevant suggestion information, although there is no direct

stimuli-induced submission available. Such mechanism of sharing is based on participants' voluntary consent, it increases the applicability of the information, as well as enhances the accessibility. The effectiveness of the computerized suggestion system according to the present invention is supported by an incentive awarding process, Redeem Awards (315).  
5 Suggestioners or evaluators earn rewards for the submissions and evaluation they made. Each of the above processes and modules are described in more detail in the following description.

#### (1) OPEN ACCOUNT

10 The Open Account process registers a user on the system either as a Suggestionee (the recipient of suggestions), a Suggestioner (the provider of suggestions) or as an Evaluator (one that evaluates previously submitted suggestions). During the process of registering, the system captures demographic information associated with the user. The true identity (name  
15 or e-mail address) may be volunteered by the user, but is not required as part of the registration process.

Referring to Fig. 4, the Opening Account process 301 in an embodiment of the present invention includes a sequence of steps. The system creates a user id and password 401 and records background information, such as demographic data 403. The system then prompts the user how he or she want to register and processes the input accordingly. If 20 registered as a suggestionee, the record is stored in suggestionee database

121; if registered as a suggestioner, the record is stored in suggestioner database 123; and if registered as an evaluator, the record is stored in evaluator database 125.

(2) CREATE SUGGESTION-STIMULI PROCESS

5 Referring to Fig. 5, the Create Suggestion Stimuli Process 303 includes a sequence of steps to produce suggestion stimuli, in various formats including textual, graphical, multimedia, etc. A suggestionee initiates the process by logging onto the system using the designated user id and password. The choices of generating structural or non-structural 10 questionnaires are presented. Experts' input are needed to control the format of structural questionnaires (501), whereas unstructured questionnaires take a much more relaxed and flexible form (503). To produce structured questionnaires, the system conducts a computerized interview with the suggestionee. A series of questions are presented to the 15 suggestionee, which are pre-compiled in the system based on the expert knowledge in the suggestionee's field, e.g., from a psychologist, a motivational coach, or a management consultant. Such expert's knowledge on specific matters is previously categorized and stored in a linked computer database, the expert database 129. The response from the suggestionee is 20 used to either retrieve a list of previously created questionnaires from which the suggestionee can choose, or to formulate a new questionnaire. The purpose is to create a best-suited document for eliciting suggestions that

would effectively assist the suggestionee in achieving certain specific objectives.

In one embodiment of the present invention, the examples of questionnaires include the ones related to health, parenting or financial goals; musical performances, meetings or presentations; business reports or correspondence; and comments on efficiency improvement, working conditions, new product, compensation, etc.

The questionnaires (or other similar stimuli) are placed in the Suggestion Stimuli Input Tray 305 to allow simultaneously cross-reference in a separate computer database, the commonality database 131 in subsequent analyses, as described below (see Network Commonality Determination Process). Briefly, the suggestionee is presented with the option of allowing others to be able to view this questionnaire, and any associated responses, in an anonymous fashion. This feature makes indirect suggestions available to other participating suggestionees, i.e., they may see responses to similar questionnaires although no direct suggestions to their own and similar questionnaire are received). Setting the Commonality Flag to "TRUE" (505) enables this feature for a given questionnaire; and a setting of "FALSE" disables this feature. This setting is maintained in the suggestionee's record within the Suggestionee Database .121.

Furthermore, the Create Suggestion-Stimuli Process 303 allows a suggestionee to establish incentive awards (e.g., monies, goods or services)

to be subsequently displayed along with the suggestion stimuli in the Suggestion Stimuli Input Tray 305. This mechanism is to promote and encourage the submission of thoughtful anonymous suggestions; it works in the following way. If a suggestionee chooses to offer incentives for a 5 particular stimuli, the system interacts with the suggestionee to determine the amount, type, and conditions of the rewards (507) and sets up an escrow account (509) to deposit any reward monies. The Rewards Database 127 is subsequently updated (511).

In one embodiment of the present invention, the final step of the 10 Create Suggestion Stimuli Process 303 gives a suggestionee the option of creating an e-mail distribution list to inform potential suggestioners of the newly created contents in his Suggestion Stimuli Input Tray 305. If choose to use this option, the suggestionee is prompted to provide an e-mail distribution list (513); this list is subsequently entered into the suggestionee 15 database 121.

### (3) SUGGESTION STIMULI INPUT TRAY

The goal of the Suggestion Stimuli Input Tray 305 is to provoke structured and/or unstructured responses (i.e., suggestions) to subject matter that is of interest to a suggestionee. The stimuli in the Suggestion 20 Stimuli Input Tray 305 include questionnaires, and any other textual, visual, or audio and video presentations, that have been created by the Create Suggestion Stimuli Process 303. In addition, the Suggestion Stimuli Input

Tray 305 is used to display an incentive award (e.g., a given amount of money, a piece of consumer goods, or the enjoyment of certain type of services) to promote and encourage the submission of suggestions.

Referring to Fig. 6, the Suggestion Stimuli Input Tray 305 involves a series of operations in one embodiment of the present invention. Once a suggestioner logs onto the host web site of the computerized suggestion system, he or she is prompted to enter a search term to retrieve an specific suggestion box associated with a registered suggestioneer (601) that is of interest. The suggestioner may choose the intended suggestioneer, and download the contents of the suggestioneer's Suggestion Stimuli Input Tray 305 to his own computer and view the contents (603) through the web browser 115. The Suggestioner may submit suggestions in response to any of the listed suggestion stimuli (e.g., various questionnaires). If the intended suggestioneer is not found to have been registered on the system, the suggestioner may create a temporary suggestion box (608) and submit a private, anonymous suggestion to the unregistered suggestioneer. The system prompts the suggestioner for the e-mail address (or other contact information, such as a postal address or telephone number) of the suggestioneer (609), creates a user id and password (610) and informs the suggestioneer that an unsolicited suggestion has been received by the system. The email notification contains the user id and password, which may be used to unlock the private, temporary suggestion box and allow the

suggestionee to view the content via the Raw Suggestion Output Tray (See Fig. 8). The temporary suggestion (content) and the user id and password of the unregistered suggestionee is subsequently stored in the Suggestionee Database (610).

5 In an embodiment of the invention, the suggestioner is not required to open an account on the system, in which case he or she may not engage in anonymous bi-directional communication nor share any available rewards offered in the system. If, instead, the suggestioner chooses to open an account on the system, the Open Account Process 301 is executed. In  
10 another embodiment of the invention, this allows a suggestioner to uses a unique id and password when submitting a suggestion, and each such submission to be identified by a unique suggestion number. An option of enabling future bi-directional communications with the suggestionee (605) is then presented to the suggestioner, which allows the suggestionee to seek  
15 further clarification and feedback from the suggestioner. Furthermore, if the suggestionee has established a reward for the stimuli to which the suggestioner responded with a suggestion, the suggestioner is given the reward based on established criteria (607).

#### (4) RAW SUGGESTION OUTPUT TRAY

20 The Raw Suggestion Output Tray 309 presents suggestions gathered from suggestioners in their original form. A suggestionee may view the contents of his Raw Suggestion Output Tray 309 once he enters the unique

user identification number and password. Further, a suggestee may communicate with an anonymous suggestioner if this privilege has been given by the suggestee at the time when the suggestion was submitted.

This bi-directional communication allows the suggestee to seek

- 5 clarification or additional data in a secure and anonymous manner from the suggestioner on a specific suggestion submission.

Referring to Fig. 8, the Raw Suggestion Output Tray 309 involves a sequence of operations. At the host web site of the system, a suggestee enters his unique user identification and password (801). The suggestee 10 then selects a specific stimuli (803), e.g., a specific questionnaire, from a list of presented stimuli that have been previously created in the Create Suggestion-Stimuli Process 303. The system accordingly presents a list of suggestions gathered in response to that stimulus, which the suggestee can browse through (805). The suggestee may select an individual 15 response and request that additional information/clarification be provided by the suggestioner (807). This is accomplished by querying the suggestioner database 123 to determine if the necessary bi-directional communication has been granted by the suggestioner. If such communication was enabled, the suggestee can enter a clarification request (807) that is then forwarded to 20 the suggestioner via e-mail (809).

#### (5) SUGGESTION EVALUATION PROCESS

The Suggestion Evaluation Process 307 allows suggestions to be evaluated and organized before delivered to a suggestionee, by a group of evaluators, experts, or automated system processes. In one embodiment of the invention, a suggestionee identifies the set of suggestions to be

5 evaluated; and the system automatically recommends suitable evaluators, e.g., a group of computer scientists, for the suggestions, based on demographic or other type of information related to various evaluators. In another embodiment, the suggestionee may set up a new group of evaluators; and recommend each evaluator in the group by entering their

10 identity information to the system. Each evaluator is assigned a random subset of the suggestions collected in response to a stimuli to process.

Referring to Fig. 7, the Suggestion Evaluation Process 307 involves a sequence of detailed operations in one embodiment of the invention. A suggestionee first enters his unique user identification and password, and

15 then selects a specific stimulus (701), such as a questionnaire, from a presented list of stimuli that have been created in the Create Suggestion-Stimuli Process 303. The system displays a list of collected suggestion responses to the selected stimulus, along with a list of available evaluators or automated evaluation processes that may be suitable for evaluating the

20 suggestions (703). The suggestionee may either accept the recommendation of evaluators by the system, or create a new group of evaluators, by entering the e-mail addresses and other information of those evaluators to

the system (705). Each evaluator is assigned a subset (the "Response Subset Group") of the gathered suggestions (the "Response Population") in a random fashion. As samples are drawn from the Response Population, the suggestion number associated with each suggestion is used to cross-  
5 reference a response (or suggestion), a stimulus (or questionnaire) in other processes and operations in the system.

In this embodiment of the invention, it is possible for the same sample (i.e., suggestion) to be assigned to different evaluators. The system only ensures that each evaluator has been assigned a Response Subset Group of  
10 equal size and that all suggestions in the Response Population have been distributed (707). The assignment of Response Subset Groups to the evaluators is recorded in the evaluator database 125. The system then transmits a Response Subset Group to each evaluator via e-mail. The e-mail account may either be on the system or on a third party e-mail system as  
15 determined by the evaluator when he registered with the system using the Open Account process 301. In the cases where automated system evaluation process are used, such as statistical analysis, complex data correlation analysis, and knowledge extraction using machine learning tools, etc., the allocation of suggestions to various processes are made  
20 automatically; and the system synchronizes these various operations to optimize overall performance.

An example of the type of evaluation is to rate the suggestions: evaluators rank the suggestions contained in their respective Response Subset Groups from "best" to "worst" based on a preset numbering system, e.g., "best" equals "1" and "worst" equals 10. Evaluators submit their 6 evaluation result to the system, which at a reasonable interval, gathers and integrates evaluation results from the group of evaluators. In the case of ranking data, a temporary array "Ranking Array" is used to organize the result, which eventually holds the consensus ranking for all evaluated suggestions. The Ranking Array is an associated array where the rate of 10 each suggestion is linked to its suggestion number, e.g., referenced by a computer program as Ranking\_Array[suggestion number][ranking].

In an embodiment where none of the suggestions is allowed to share the same ranking, the system processes all suggestions to determine their ranking by maintaining a running sum in the Ranking Array. This is 15 accomplished by: a) retrieving the current ranking for each entry in the Ranking Array using the suggestion numbers; b) inserting the newly processed ranking to the ranking list retrieved in the previous step, one at a time; and c) placing the newly ranked entry into the enlarged Ranking Array, one at a time. The resulted Ranking Array contains a running total of all 20 rankings of the evaluated suggestions, each identifiable by its suggestion number.

In another embodiment, a suggestion can have the same numeric ranking value as some other suggestions; such suggestions are deemed to be of equal value for the purpose of awarding any rewards. The reward monies may be distributed among the suggestioners who submitted the highest ranked suggestions. The evaluation results and the rewards data are subsequently used to update the evaluator database 125 and the suggestionee database 121.

The system may choose to engage in additional rounds of evaluation (709); and it may also choose to run a number of different evaluation steps, such as statistical analysis, etc. outlined above. After completing all evaluation steps, the system queries the suggestionee database 121 to determine if the Commonality Flag was set TRUE by the suggestionee in the Create Suggestion-Stimuli Process 303 to allow sharing of the suggestions. If it was set TRUE, then the commonality database 131 is updated (711) and the evaluated suggestions are made available for viewing by other suggestionees who had also enabled their Commonality Flag for similar suggestion stimuli.

#### (6) EVALUATED SUGGESTION OUTPUT TRAY

The Evaluated Suggestion Output Tray 313 displays the evaluated suggestions output from the Suggestion Evaluation Process 307. The evaluated suggestions may be rank-ordered . Referring to Fig. 10, the Evaluated Suggestion Output Tray 313 involves a sequence of operations in

the preferred embodiment of the invention. At the host web site of the system, a suggestee enters his user identification and password, and selects a stimuli (e.g., a questionnaire) for which he intends to view responses (1001). The suggestee is then presented with a list of 5 evaluated responses generated from the Suggestion Evaluation Process 307 that are associated with the selected stimuli (1003). The suggestee may select an individual suggestion, and request that additional information or clarification be provided by any of the various evaluators. This is accomplished by the system querying the evaluator database to determine 10 which evaluators had enabled bi-directional communication with the suggestee (1005). Once an evaluator or a group of evaluators are identified who had enabled such communication, the suggestee may enter a clarification question (1007), which is then forwarded to the evaluator(s) via e-mail (1009).

15 (7) NETWORK COMMONALITY DETERMINATION PROCESS

The system enables a suggestee to receive indirect suggestions to similar suggestion stimuli that are used by other suggestees. This privilege of sharing suggestion feedback is only extended on a reciprocal basis to other suggestees having set the Commonality Flag TRUE in the 20 Create Suggestion-Stimuli Process 303, in the preferred embodiment of this invention. The system invokes the Network Commonality Determination Process 311 automatically at a preset reasonable interval.

Referring to Fig. 9, the Network Commonality Determination Process 311 includes a sequence of steps in one embodiment of this invention. The system periodically and automatically parses the suggestionee database 121 to determine if the Commonality Flag was set by new and existing suggestees in the Create Suggestion-Stimuli Process 303 (901). Once the system detects a TRUE Commonality Flag, it copies the suggestion stimuli and the associated suggestion responses to the commonality database 131, from the Suggestion Stimuli Input Tray 305 and Raw Suggestion Output Tray 309, respectively (903). The system then again parses the suggestionee database 121, and compares all stimuli or questionnaires found in the suggestionee database 121 to those in the commonality database 131. If a match is found, then those suggestionees who had previously set the Commonality Flag TRUE are informed (e.g., via e-mail) of available indirect suggestions (905). These suggestions are then automatically copied to the respective Raw Suggestion Output Trays 309 of the participating suggestionees (907).

#### (8) REDEEM AWARDS

The Redeem Awards process 315 allows a suggestioner or evaluator to redeem their reward points which they earned by submitting a suggestion via the Suggestion Stimuli Input Tray 305, and by evaluating suggestions in the Suggestion Evaluation Process 307. A Reward Point may be defined to 1/100<sup>th</sup> of a US Dollar (\$0.01), in an embodiment of this invention; in other

embodiments of the invention, reward points may be converted to goods or services at a fair market price.

Referring to Fig. 11, the Redeem Awards process 315 includes a sequence of steps. A registered suggestioner or evaluator first enters his user identification and password at the host web site of the system and chooses Redeem Awards by clicking on a labeled button. The system then performs a query to the rewards database 127, and retrieves and displays the balance of the user's rewards account (1101). The user then selects the amount of Reward Points to redeem (1103). The Rewards Points can be redeemed to either cash or goods and services of equal value. If the user elects to convert Reward Points to cash, then the system prompts the user to enter the necessary information to process the transaction (e.g., bank routing numbers, credit card accounts, name, address, etc.) (1105). The system then disburses the funds (e.g., prints a physical check and mails it via the postal system, or transfers funds electronically to a bank or credits a charge card account) (1107). If the user elects to convert Reward Points to good or services, then the system prompts the user for the information necessary to complete the transaction. The system then updates the suggestioner database 123, the evaluator database 125, the suggestionee database 121, and the rewards database 127. In one embodiment, the system may post the amount of any award on the host web site.

Although only a few exemplary embodiments of this invention have been described in detail above, those skilled in the art will readily appreciate that many modifications are possible in the exemplary embodiments without materially departing from the novel teachings and advantages of this 5 invention. Accordingly, all such modifications are intended to be included within the scope of this invention.

What is claimed is:

1. A system for collecting one or more suggestions from a first entity and providing access to collected suggestions to a second entity comprising a memory for storing one or more suggestions submitted by the first entity in response to a stimulus selected by the second entity and an interface permitting the second entity to access the stored suggestions.
- 5
2. A method for obtaining suggestions, comprising selecting a stimulus to solicit suggestions from a first party, said suggestions being stored in a memory, and obtaining access to suggestions stored in the memory through an interface displayed by a server.
- 10
3. A system of flow of suggestions, comprising:
  - (a) at least one solicitor providing one or more stimuli for soliciting suggestions;
  - 15
  - (b) at least one respondent providing one or more raw suggestions in response to said one or more stimuli; and
  - (c) a processor that is capable of organizing, evaluating, and otherwise processing said one or more raw suggestions, resulting in processed suggestions which are then delivered to said solicitor.
  - 20

4. The system of claim 3, wherein said processed suggestions are substantially the same as said raw suggestions.

5. The system of claim 3, wherein said processed suggestions are delivered to a second solicitor which provides one or more substantially similar stimuli.

6. The system of claim 3, wherein said processed suggestions are delivered to a receiver which does not provide any stimuli and which is designated by said solicitor.

7. The system of claim 3, further comprising a channel whereby said solicitor engage in direct communication with said respondent after receiving said processed suggestions.

15

8. The system of claim 3, wherein said stimuli further comprises rewards incentives.

9. The system of claim 3, wherein the flow of suggestions is via a computer network, and wherein a single interface on said network is provided to said each solicitor and to said each respondent to support said flow of suggestions.

10. The system of claim 3, further comprising a database having stored therein information of said solicitor, said respondent, said stimuli, and said raw and processed suggestions.

5

11. The system of claim 10, further comprising a user interface whereby said solicitor and said respondent access said information.

12. A method for obtaining suggestions, comprising

10 (a) providing one or more stimuli by at least one solicitor for soliciting suggestions;

(b) gathering one or more raw suggestions from at least one respondent in response to said one or more stimuli;

15 (c) organizing, evaluating, and otherwise processing said one or more raw suggestions, resulting in processed suggestions; and

(d) delivering said processed suggestions to said solicitor.

13. The method of claim 12, wherein said processed suggestions are substantially the same as said raw suggestions.

20

14. The method of claim 12, further comprising delivering said processed suggestions to a second solicitor which provides one or more substantially similar stimuli.

6 15. The method of claim 12, further comprising delivering said processed suggestions to a receiver which does not provide any stimuli and which is designated by said solicitor.

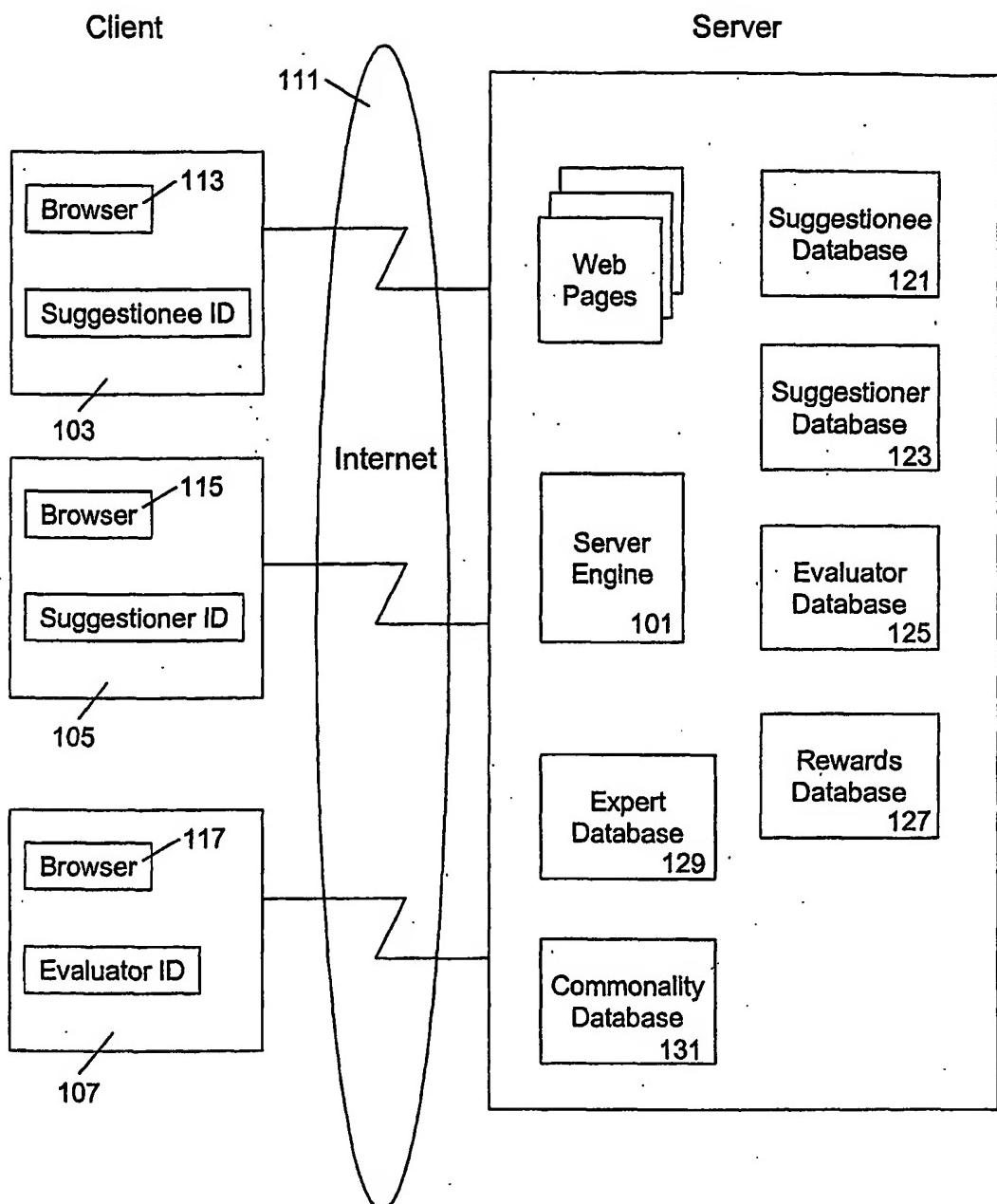
16. The method of claim 12, further comprising providing rewards  
10 incentives along with said stimuli.

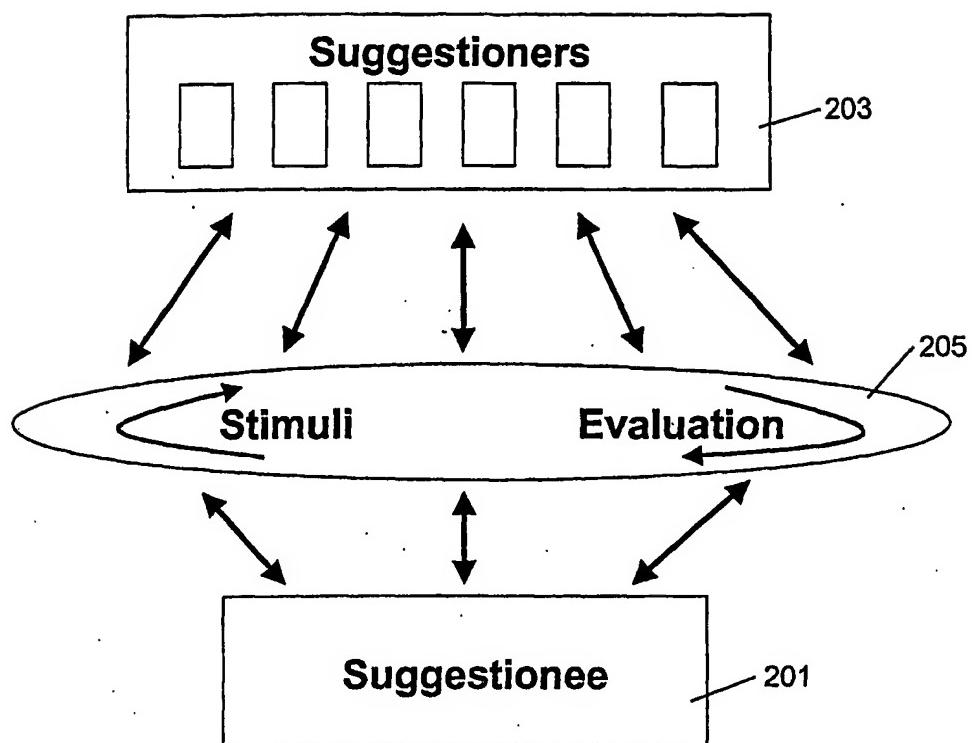
17. A method for providing suggestions, comprising  
(a) providing one or more stimuli by at least one solicitor for soliciting suggestions;  
15 (b) gathering one or more raw suggestions from at least one respondent in response to said one or more stimuli;  
(c) organizing, evaluating, and otherwise processing said one or more raw suggestions, resulting in processed suggestions; and  
(d) delivering said processed suggestions to a receiver designated by  
20 said solicitor.

18. A system of flow of suggestions, comprising:

- (a) at least one solicitor providing one or more stimuli for soliciting suggestions;
  - (b) at least one respondent providing one or more raw suggestions in response to said one or more stimuli; and
- 5       (c) a processor that is capable of organizing, evaluating, and otherwise processing said one or more raw suggestions, resulting in processed suggestions which are then delivered to a receiver designated by said solicitor.

10

**FIG. 1**

**FIG. 2**

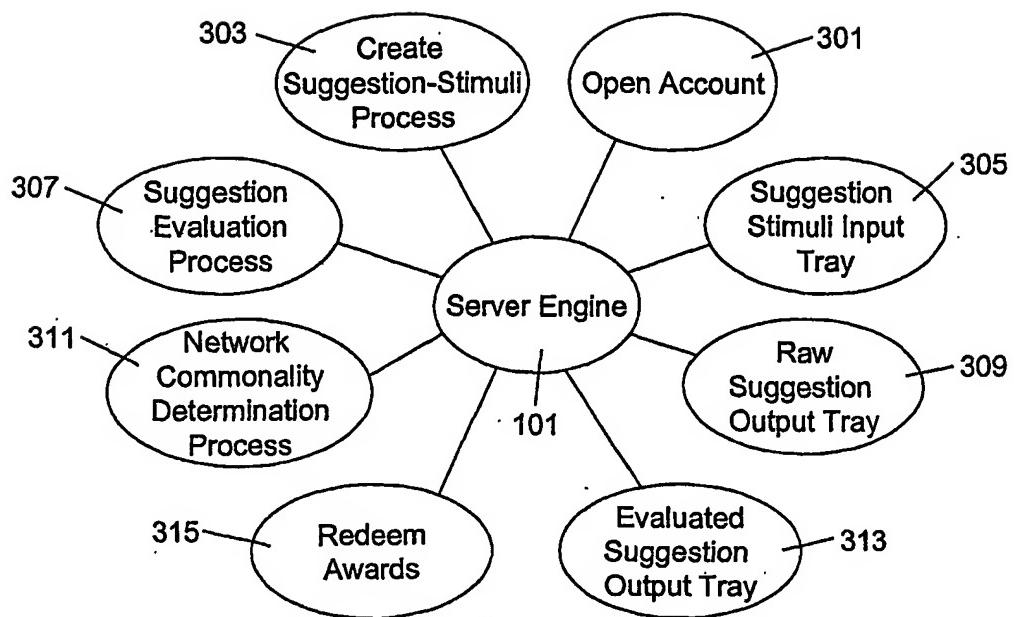


FIG. 3

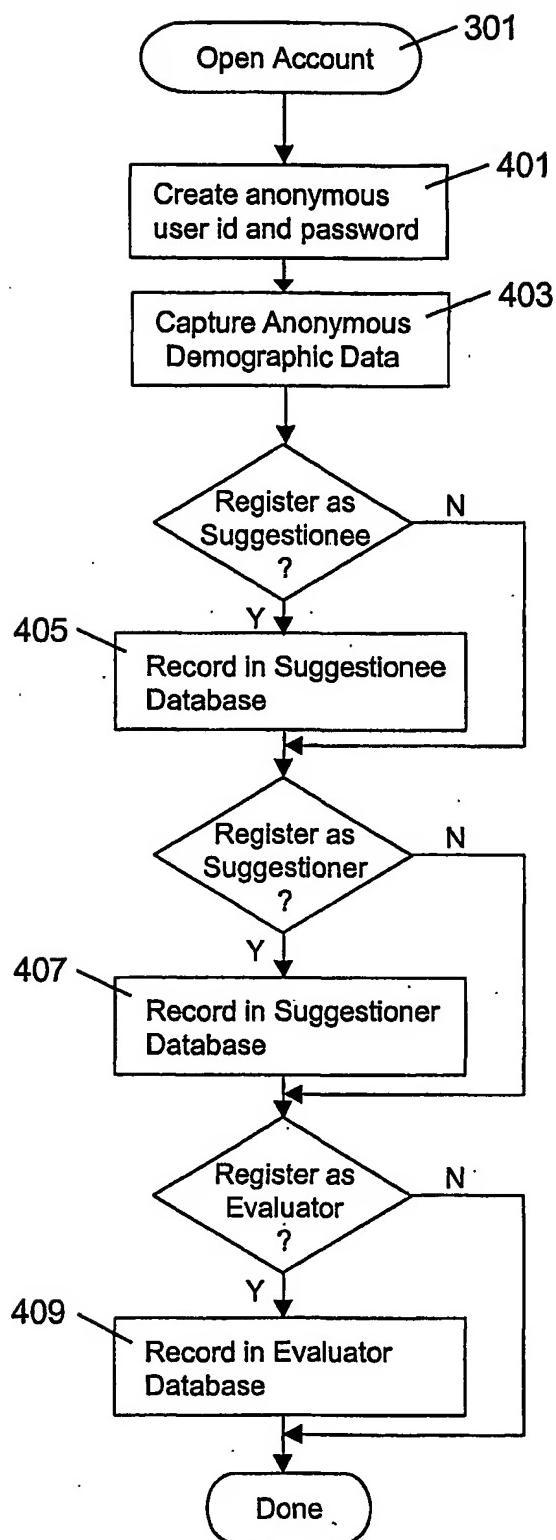


FIG. 4

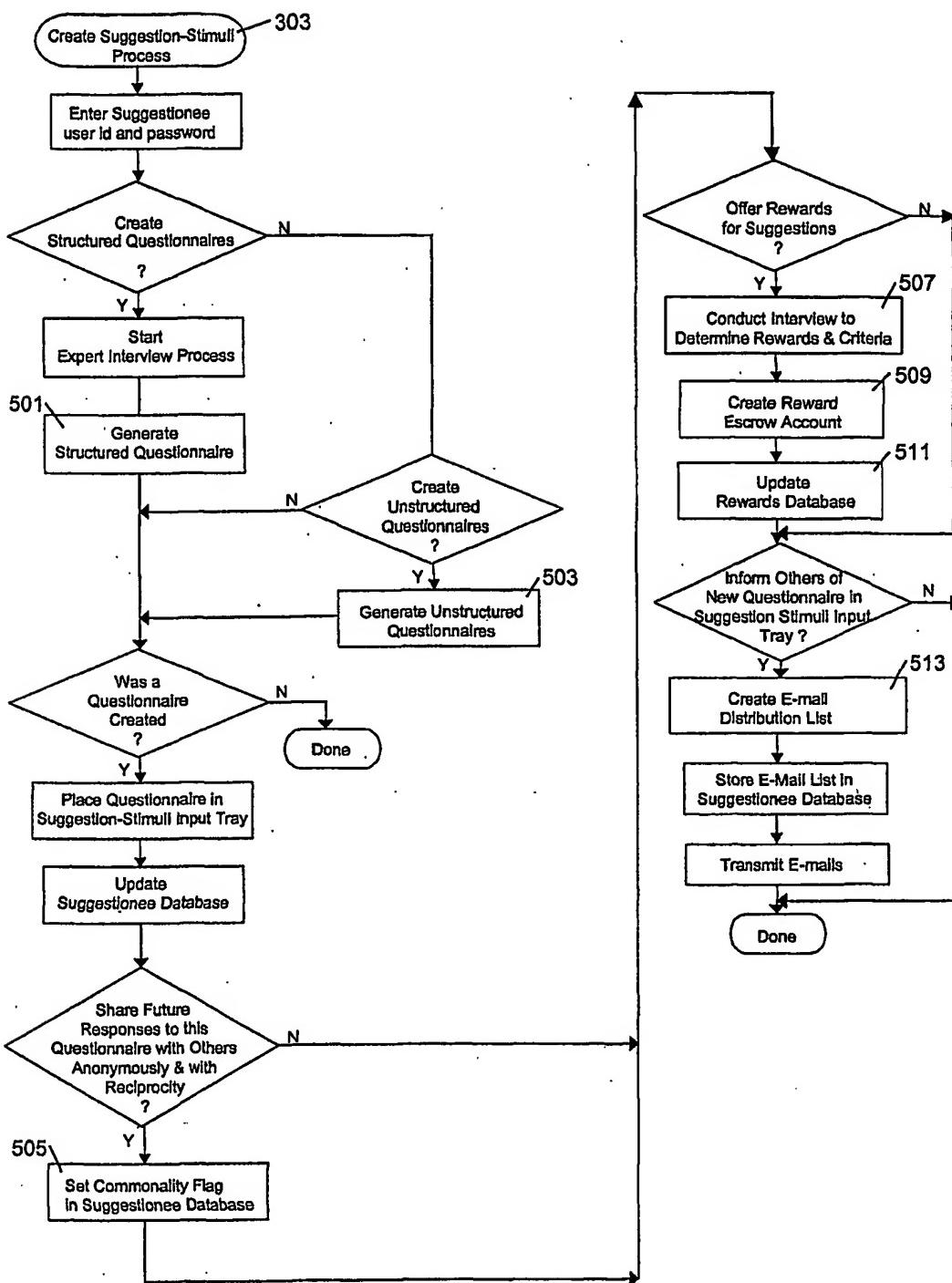
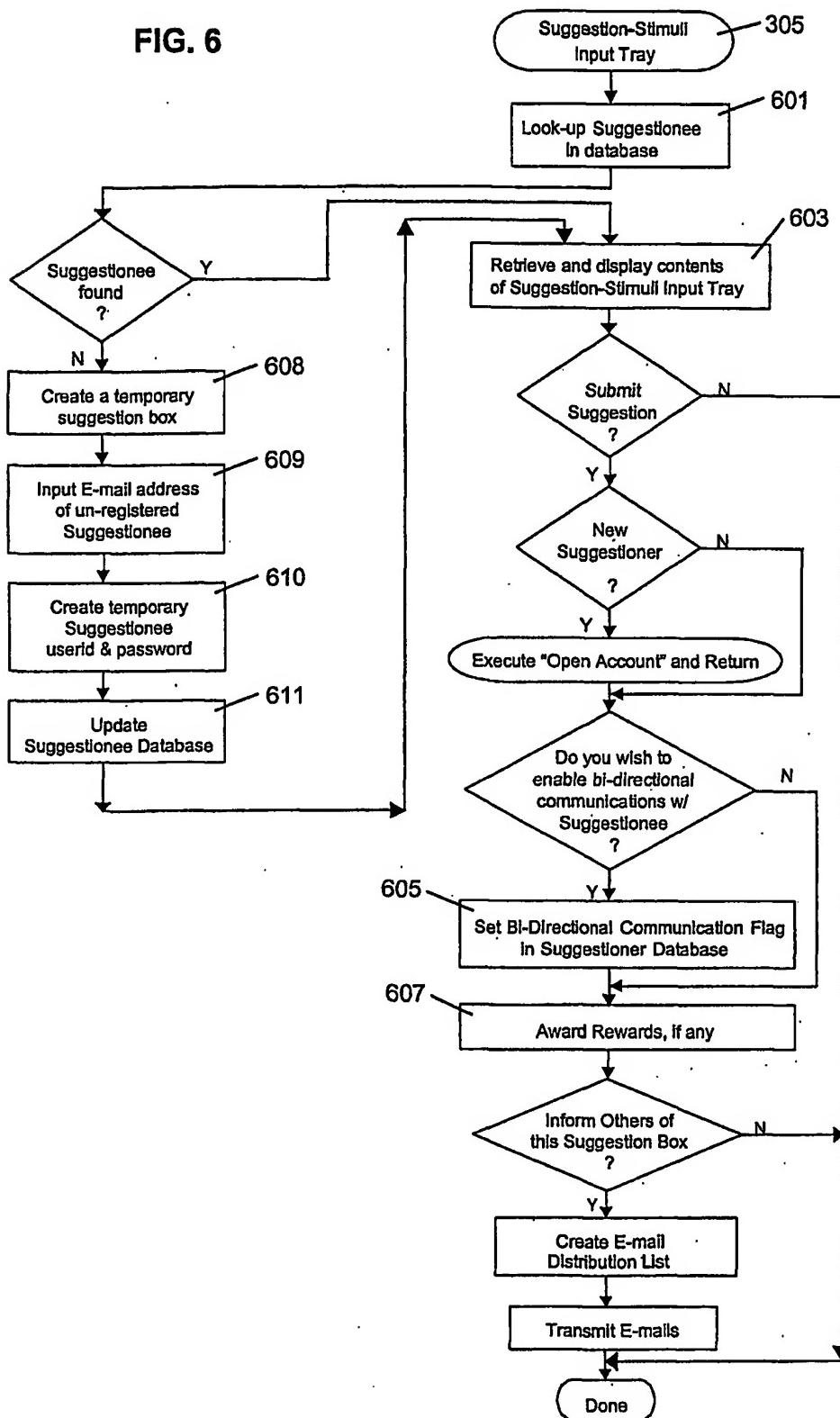
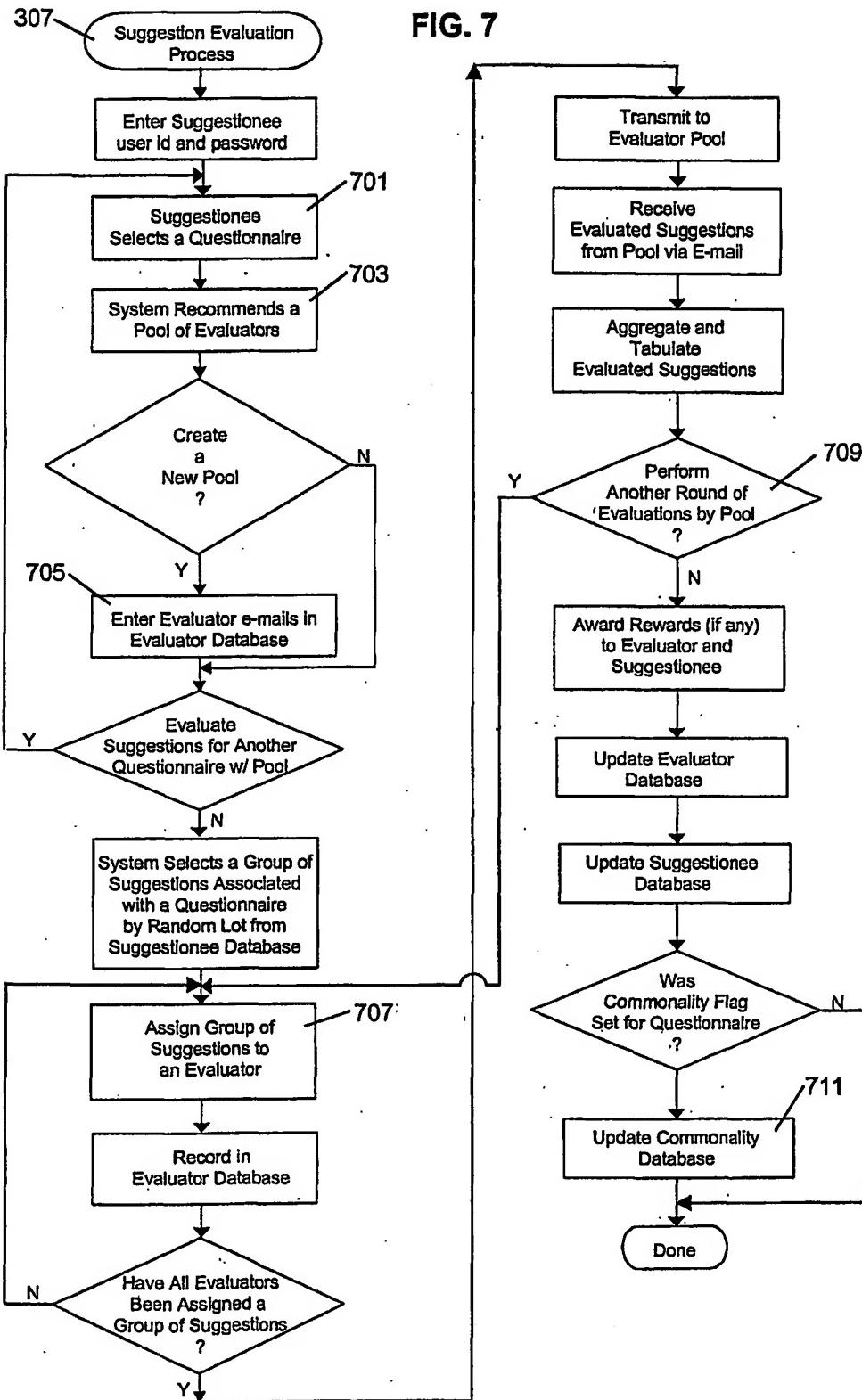


FIG. 5

FIG. 6





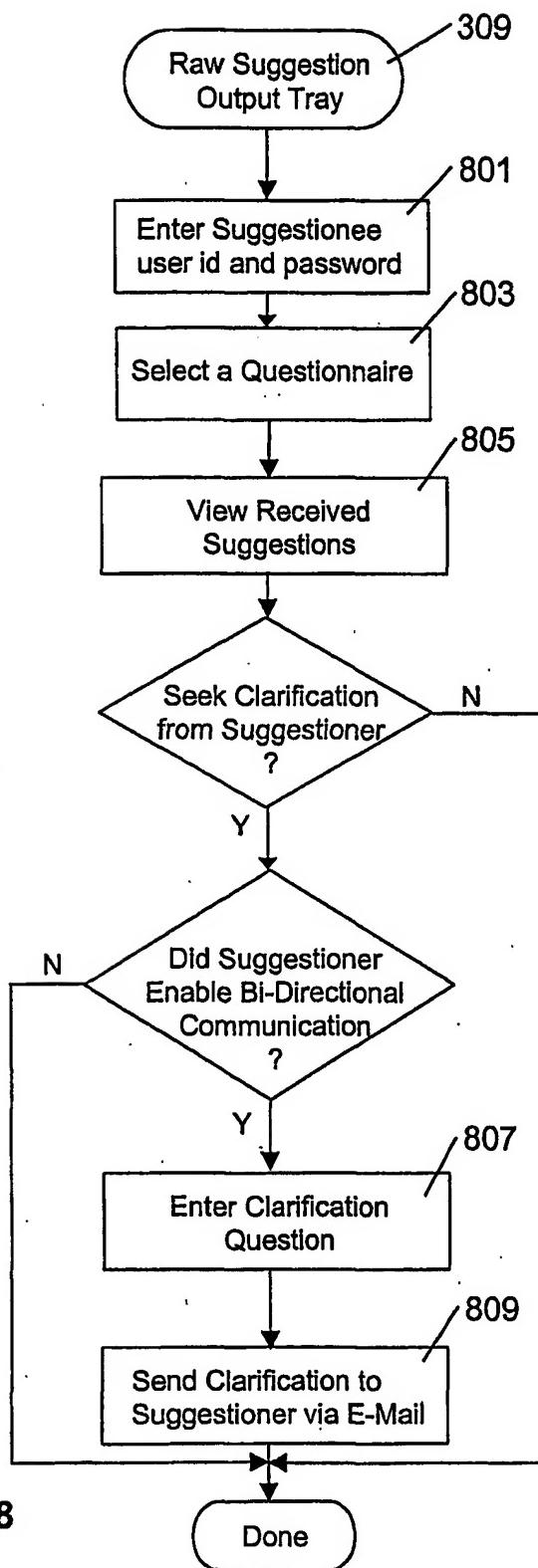
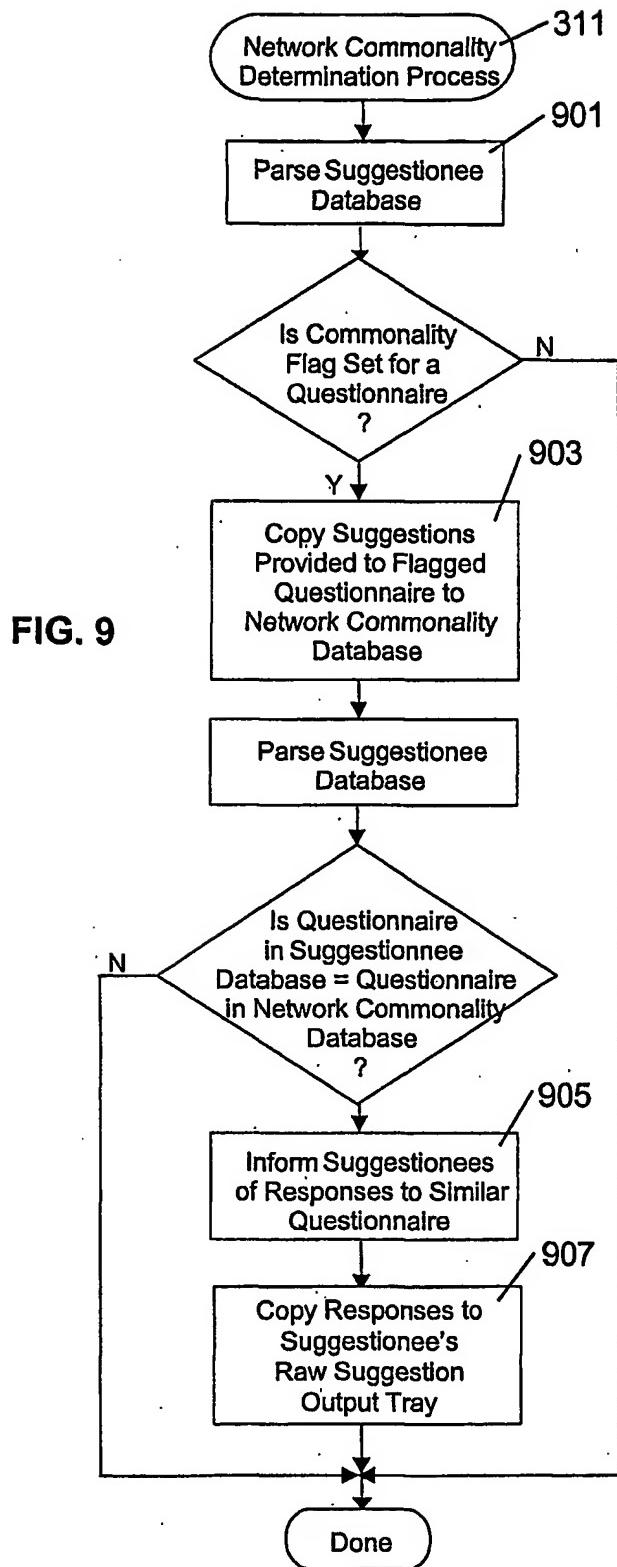


FIG. 8



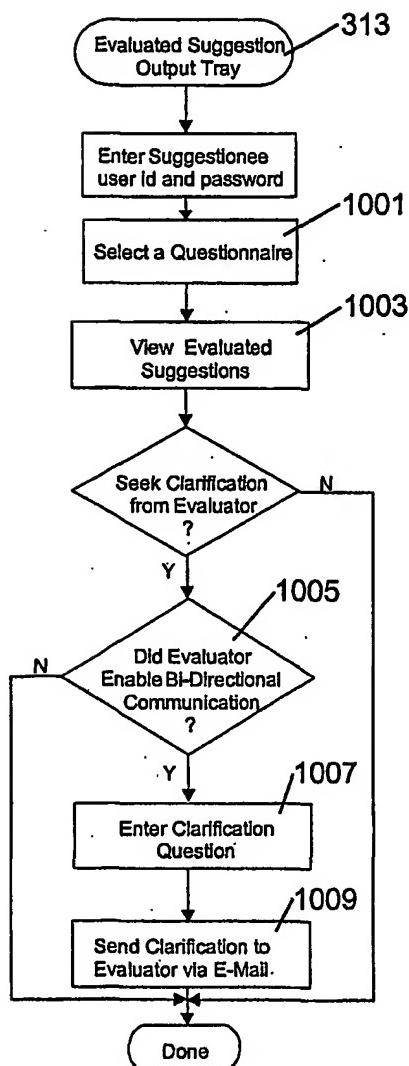


FIG. 10

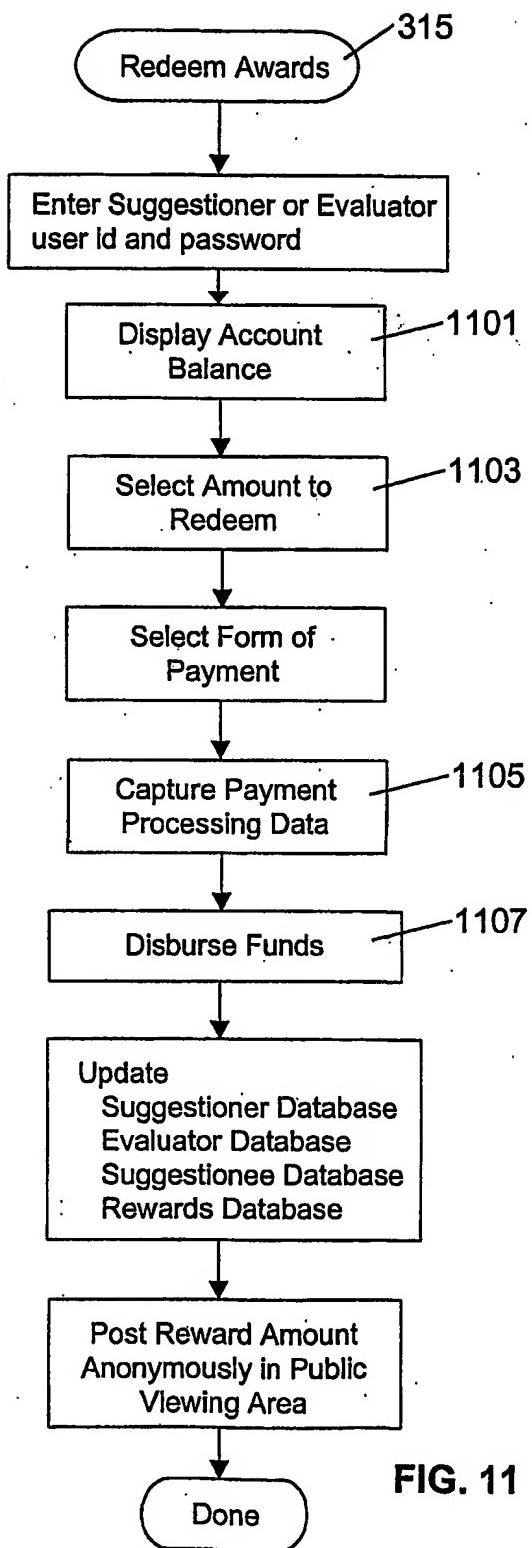


FIG. 11

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
11 October 2001 (11.10.2001)

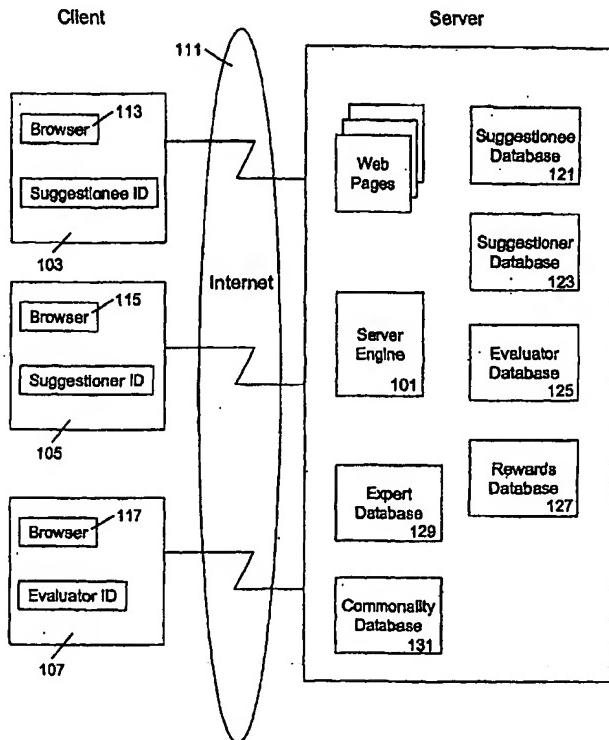
PCT

(10) International Publication Number  
**WO 2001/075683 A3**

- (51) International Patent Classification<sup>7</sup>: G06F 17/30
- (21) International Application Number: PCT/US2001/009835
- (22) International Filing Date: 28 March 2001 (28.03.2001)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
60/194,029 3 April 2000 (03.04.2000) US  
09/664,070 18 September 2000 (18.09.2000) US
- (63) Related by continuation (CON) or continuation-in-part (CIP) to earlier application:  
US 60/194,029 (CIP)  
Filed on 3 April 2000 (03.04.2000)
- (71) Applicant (*for all designated States except US*): SUGGESTIONATOR.COM, INC. [US/US]; 6001 Broken Sound Parkway, Suite 510, Boca Raton, FL 33487 (US).
- (72) Inventors; and  
(75) Inventors/Applicants (*for US only*): COES, Rufus, Putnam, III [US/US]; 7600 Pine Road, Wyndmoor, PA 19038 (US). GONZALEZ-HERES, Jose, F [US/US]; 3009 N.W. 26th Avenue, Boca Raton, FL 33434 (US).
- (74) Agent: MAEBIUS, Stephen, B.; Foley & Lardner, 3000 K. Street, N.W., Suite 500, Washington, DC 20007-5109 (US).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,

*[Continued on next page]*

- (54) Title: COMPUTERIZED SYSTEM AND METHOD FOR SOLICITING, COLLECTING AND EVALUATING SUGGESTIONS FROM STRUCTURED AND UNSTRUCTURED STIMULI VIA A COMPUTER NETWORK



(57) Abstract: A method and apparatus for suggestion solicitation, collection, and evaluation. The method and apparatus enables individuals and organizations to obtain and provide real-time, anonymous, and subject-specific feedback via a computer network, such as the Internet, to improve their decision-making capabilities. Bi-directional anonymous communication is established to allow for clarification on prior suggestion submissions and better targeted future submission. Indirect feedback is gathered among consenting users sharing anonymous responses to similar suggestion-solicitation stimuli. An anonymous incentive-awarding mechanism is provided to enhance the efficiency of the information flow. The method and apparatus further provides an intermediate processing layer between the suggestion or information sought and the suggestion or information delivered; such intermediate processing includes systematic evaluation, filtering, and knowledge extraction steps.

WO 2001/075683 A3



IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, (88) Date of publication of the international search report:  
CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). 26 February 2004

**Published:**

— *with international search report*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

# INTERNATIONAL SEARCH REPORT

Internat Application No  
PCT/US 01/09835

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 G06F17/30

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used).

EPO-Internal, PAJ, WPI Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98 04061 A (WALKER ASSET MANAGEMENT LTD) 29 January 1998 (1998-01-29) abstract page 5, line 19 -page 6, line 22 page 9, line 3 -page 13, line 28 page 16, line 7 -page 26, line 6 page 32, line 3 -page 40, line 4 page 55, line 1 -page 62, line 15 figures 1-9,29-35 ----	1-18
X	US 5 725 384 A (ISHIBASHI RYOICHI ET AL) 10 March 1998 (1998-03-10)	1,2
A	abstract column 1, line 8 -column 6, line 17 figures 1-3,6,7,9-11 ---- -/-	3-18

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

\* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the International filing date
- "L" document which may throw doubts on priority, claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

4 November 2003

Date of mailing of the International search report

13/11/2003

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Moreno-Solana, S-F

## INTERNATIONAL SEARCH REPORT

Internal Ref.	Application No.
PCT/US 01/09835	

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 026 148 A (BONO CHARLES A ET AL) 15 February 2000 (2000-02-15)	1,2
A	abstract column 1, line 4 -column 4, line 67 column 5, line 21 -column 7, line 13 column 8, line 6 - line 9 figures 1,2,5,10 -----	3-18
A	GB 2 329 046 A (MITEL CORP) 10 March 1999 (1999-03-10) abstract page 2, line 5 -page 4, line 4 page 4, line 27 -page 10, line 9 figures 1,2B,4 -----	1-18
A	EP 0 823 688 A (HITACHI LTD) 11 February 1998 (1998-02-11) column 2, line 19 - line 40 column 4, line 37 -column 5, line 45 column 7, line 25 -column 8, line 2 figures 2-6 -----	1-18

# INTERNATIONAL SEARCH REPORT

Information on patent family members

Internati onality	Application No
PCT/US	01/09835

Patent document cited in search report	Publication date	Patent family member(s)			Publication date
WO 9804061	A 29-01-1998	US 5862223 A			19-01-1999
		AU 724040 B2			07-09-2000
		AU 3812097 A			10-02-1998
		BR 9710547 A			11-01-2000
		CA 2260272 A1			29-01-1998
		EP 0909494 A1			21-04-1999
		JP 2000511672 T			05-09-2000
		WO 9804061 A1			29-01-1998
		US 6093026 A			25-07-2000
		US 6513014 B1			28-01-2003
		US 6616458 B1			09-09-2003
US 5725384	A 10-03-1998	JP 8292937 A			05-11-1996
US 6026148	A 15-02-2000	NONE			
GB 2329046	A 10-03-1999	CA 2246130 A1			04-03-1999
		US 6230287 B1			08-05-2001
EP 0823688	A 11-02-1998	JP 10049581 A			20-02-1998
		EP 0823688 A2			11-02-1998
		US 6594652 B1			15-07-2003
		US 6094675 A			25-07-2000